



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/647,910	12/07/2000	Christine Gauss	113737.5	5985

41068 7590 03/07/2005

BUCHANAN INGERSOLL PC
1835 MARKET STREET, 14TH FLOOR
PHILADELPHIA, PA 19103-2985

EXAMINER

BARTON, JEFFREY THOMAS

ART UNIT PAPER NUMBER

1753

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/647,910

Applicant(s)

GAUSS ET AL.

Examiner

Jeffrey T. Barton

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed on 22 December 2004 does not place the application in condition for allowance.

Status of Objections and Rejections Pending Since the

Office Action of 19 October 2004

2. The objection to the specification is maintained.
3. The rejections relying on Togawa et al and Carr et al are withdrawn due to Applicants' arguments.
4. ~~The prior rejections relying on Togawa et al and Pelc et al are withdrawn due to Applicants' amendment.~~
5. New grounds of rejection are presented below.

Specification

6. The disclosure is objected to because of the following informalities: on page 5 at line 18, it is stated that steel capillaries are preferred because of their high resistance. Perhaps "durability" was intended rather than "resistance." Resistance implies that a material is not electrically conductive, although steel certainly conducts electricity. Applicants failed to address this objection in the Amendment or Remarks filed 22 December 2004.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 2, 4, 5, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Carr et al.

Regarding claim 1, Carr et al disclose an apparatus that receives a plurality of samples from a support material (Page 6, lines 18-28 - slugs are samples of the photopolymer sheet, which can be described as a support material), the apparatus comprising a plurality of separation tools (Figure 2, tools 10) for taking samples of the support material (Page 6, lines 18-28), wherein the tools are arranged on a holding device (Figure 3, member 17) and are provided with respective actuating means by which the tools are separately controlled and moved. (Page 5, lines 8-14; Page 6, lines 18-28)

Furthermore, although the plastic sheets of Carr et al correspond to a “support material”, the limitations “for receiving a plurality of samples from a support material” and “for taking samples of the support material” are not given undue weight, since they correspond to intended use of the apparatus.

Regarding claim 2, Carr et al disclose the tools being tubular punches (Figure 3) axially movably arranged on actuating means at one end (Cylinder 18 and associated parts, upper end of tool 10), with the cutting edge at the other (lower) end.

Regarding claim 4, Carr et al disclose actuation by pneumatic cylinders. (Page 5, lines 8-14; Figure 3)

Regarding claim 5, Carr et al disclose disposition of the tools in a one-row matrix. (Figure 2)

Relevant to claim 7, Carr et al disclose each separation tool (10) being connected by a guide means (18) to the actuating means (19) with each guide having a connecting opening (21 and 22) whereby the separation tool is connected to a pressure system. (Figure 3; Page 5, line 15 - Page 6, line 9)

9. Claims 1, 4, 5, 7, 10, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kakimoto.

Regarding claim 1, Kakimoto discloses an apparatus that receives a plurality of samples from a support material (Column 4, lines 11-115 - slug holes receive slugs, which are samples of the workpiece W), the apparatus comprising a plurality of separation tools (Figure 5, tools 14) for taking samples of the support material (Workpiece W), wherein the tools are arranged on a holding device (Block 6) and are provided with respective actuating means by which the tools are separately controlled and moved. (Figures 1 and 2 show mechanism 15; also Column 3, line 60 - Column 4, line 15)

Furthermore, although the workpiece of Kakimoto corresponds to a "support material", the limitations "for receiving a plurality of samples from a support material" and "for taking samples of the support material" are not given undue weight, since they correspond to intended use of the apparatus.

Regarding claim 10, Kakimoto discloses a method comprising cutting samples successively in time from a support material using the device described above in addressing claim 1 and transferring the samples to a target substrate. (Column 4, lines 42-54; slug holes are target substrates)

Regarding claims 4 and 13, Kakimoto discloses actuation by pneumatic cylinders. (Figures 1 and 2; mechanisms 15)

Regarding claim 5, Kakimoto discloses disposition of the tools in a one-row matrix. (Figure 5)

Regarding claim 7, Kakimoto discloses each separation tool (Figure 2, 14) being connected by a guide means (Block 6) to the actuating means (Cylinder 15) with each guide having a connecting opening (Through extension containing 16') whereby the separation tool is connected to a pressure system.

10. Claims 1, 5-8, 10, 11, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Meltzer.

Regarding claim 1, Meltzer discloses a device for receiving a plurality of samples from a support material (A liquid solution comprises a support material - a solvent "supports" a solute), comprising a plurality of separation tools (Pipette tips 39 "separate"

samples of liquid from volumes held in the reservoirs), wherein the separation tools are arranged on a holding device (Carriage 14) and provided with respective actuating means by which the tools can be separately controlled and moved. (Column 3, lines 32-40)

Regarding claim 5, Meltzer discloses the tools arranged in a matrix (Figures 1 and 2b; Column 6, lines 35-37)

Regarding claim 6, Meltzer discloses the tools arranged in an array that matches the spacing of microtiter plates. (Column 8, lines 19-24)

Regarding claim 7, Meltzer discloses the tools (Figure 6; tip 39) connected by guide means 36a) to the respective actuating means (35 is lower end of actuated rack), wherein the guide means has a connecting opening (36b) that is connected to a pressure system. (Syringe applies pressure to the pipette tip) See Column 8, line 42 - Column 9, line 14.

Regarding claim 8, Meltzer discloses the holding device (14) connected to an XY robotic system that positions the holder. (Figure 1; Column 5, lines 50-58)

Regarding claim 10, Meltzer discloses a method of removing samples from support material using a device as described above in addressing claim 1. (Column 10, lines 1-10)

Regarding the word "cutting" used in the claim, the first listed definition for the verb "cut" in the Merriam-Webster dictionary is: "to penetrate with or as if with an edged instrument". Since the pipette tip has an edge (i.e. the tip point), it qualifies as an edged instrument. Given the broadest reasonable definition of "cutting", the insertion of a pipette tip through the surface of a liquid would therefore read on this step.

Regarding claim 11, Meltzer discloses a method wherein the sample taking apparatus is moved by an adjusting device into a position corresponding to predetermined target coordinates (Column 7, lines 63-68), followed by actuation of the separation tools to load at least some of the tools with removed samples. (Column 8, lines 9-51), followed by movement of the device to the target substrate for transfer of the samples. (Abstract, 1st sentence)

Regarding claim 15, the pipetting method using air displacement (Column 8, lines 47-51) inherently involves application of underpressure and overpressure to the samples in the separation tools for removing and depositing the samples, respectively.

Claim Rejections - 35 USC § 103

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carr et al.

Carr et al disclose a device as described above in addressing claim 2.

Carr et al do not explicitly disclose a device with capillary punching tools (Claim 3), or a method comprising cutting samples successively in time. (Claim 10)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Carr et al by using capillary-sized punches, because Carr et al were silent on the size of the punches, leaving the choice of an

appropriate punch size up to a skilled artisan using the device. Such selection would lie within the level of ordinary skill in the art.

13. Claims 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carr et al in view of Kakimoto.

Carr et al disclose a method comprising cutting samples from a support material using the device described above in addressing claim 1 and transferring the samples to a target substrate. (Page 6, lines 18-28) Specific to claim 13, Carr et al disclose actuation of the punches by compressed air. (Page 5, lines 8-14)

Carr et al do not explicitly disclose a method comprising cutting samples successively in time. (Claim 10)

Kakimoto discloses a punching device and method, wherein the method comprises cutting samples successively in time from a support material. (Column 4, lines 42-54)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Carr et al by subsequently punching additional holes in a support material at a different location, after moving the material a distance, as taught by Kakimoto, because Kakimoto teaches the added flexibility achievable with continuous feeding during multiple punching operations. (Column 4, lines 50-54)

One potential motivation for this is suggested by Carr et al on Page 7, lines 2-10, in noting subsequent location of the sheet by registration pins in printing equipment. It

Art Unit: 1753

would be obvious to provide such location pins (and corresponding holes) on opposing edges of the sheet, to securely hold the entire area of the sheet.

14. Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meltzer in view of Togawa et al.

Meltzer discloses devices and methods as described above in addressing claims 8 and 11.

Meltzer does not explicitly disclose determination of target coordinates using an image data from an imaging device.

Togawa et al disclose guiding a sampling device to specific coordinates determined using an image generated by an imaging device. (Column 3, lines 12-49)

Togawa et al and Meltzer are analogous art in that both deal with laboratory equipment for removing samples from supporting substrates.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device and method of Meltzer by incorporating an imaging device for generating an image of the supporting substrate to determine target coordinates for the pipetting head, because Togawa teaches the advantageous guidance of a separation tool by this means (Column 3, lines 12-49), and it would eliminate the need for precise well placement in the system.

Allowable Subject Matter

15. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The main reason for allowance is the limitation that the support material is a separation gel, and the samples are substance bands distributed therein. The prior art of record does not teach or fairly suggest a method for cutting such samples from such a support material using a device with multiple separation tools.

Response to Arguments

16. Applicant's arguments, see Amendment pages 5-8, filed 22 December 2004, with respect to the use of Carr et al as a teaching reference have been fully considered and are persuasive. The rejections based on Togawa et al in view of Carr et al have been withdrawn.

Regarding the applicability of the Carr reference to the claim 1 (Irrespective of Togawa et al), Applicants argue that Carr is not concerned with the problem addressed by the claim, citing supposed differences in the devices that are not related to limitations in the claims. (Amendment, paragraph bridging pages 7 and 8) Although Applicants' specification is clearly directed to the problems of removing samples from an electrophoresis gel, no such limitations can be seen in the claims, rendering Applicants' arguments spurious. As indicated in the rejection put forth above, the photopolymer sheeting of Carr reads on the broad limitation to a "support material", and the plugs

resulting from the punching process qualify as samples of the material. Carr may be faced with a completely different problem than that faced by the Applicants, but such differences must be reflected in the claim language in order for the claim to be patentable. Similar reasoning justifies the rejection based on Kakimoto.

All other arguments presented in the amendment have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Jeffrey Barton, whose telephone number is (571) 272-1307. ~~The examiner can normally be reached Monday-Friday from 8:30 am – 5:00 pm.~~

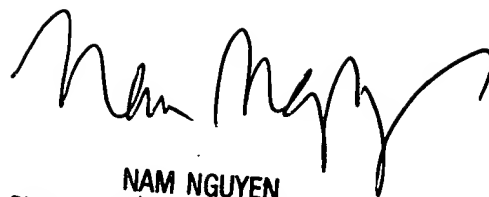
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen, can be reached at (571) 272-1342. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

Art Unit: 1753

JTB

February 28, 2005

A handwritten signature in black ink, appearing to read 'Nam Nguyen', with a stylized, flowing script.

NAM NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700